

**RESULTS** Peak rest TP in controls was  $7.78 \pm 1.85$  and it was significantly higher than in PAD patients -  $6.34 \pm 2.9$  ( $p < 0.0001$ ), as well as peak exercise TP in healthy subjects vs PAD patients shows significant difference-  $11.32 \pm 5.78$  vs  $9.16 \pm 3.56$  respectively ( $p = 0.007$ ). There was no post-exercise TP increase in healthy volunteers, at the opposite there was a significantly post-exercise peak TP increase in PAD patients ( $p = 0.003$ ). No contrast-related complications were matched.

**CONCLUSIONS** Contrast-enhanced MRI is safe and effective method of skeletal muscle perfusion evaluation which strongly distinguishes PAD patients from those with normal limb flow. This method may be useful in a PAD treatment evaluation, sport medicine and experimental research.

#### GW26-e5415

##### Adoption of Routine Ultrasound Guidance for Femoral Arterial Access

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**OBJECTIVES** To describe current knowledge, attitudes, and practices regarding ultrasound use amongst interventional cardiologists.

A randomized controlled trial published in 2010 demonstrated that ultrasound-guided femoral artery access for coronary angiography was faster and associated with fewer vascular complications than conventional fluoroscopic-guided access. The landscape of ultrasound use amongst contemporary interventional cardiologists is unknown.

**METHODS** Participants were surveyed using an online questionnaire that unfolded in phases, initially attempting to define current attitudes and then testing whether or not attitudes were adjustable after summarizing compelling research supporting the use of ultrasound-guided access.

**RESULTS** Fifty responses were received (53.2%). Only 12% reported using ultrasound routinely despite widespread availability and technical expertise. The majority of respondents believed ultrasound use to be slower but safer than access by palpation alone. There was no significant association between age ( $p = 0.674$ ) or annual case volume ( $p = 0.192$ ) and baseline ultrasound use. After examining the results of a supporting clinical trial, 35.5% said ultrasound should be used routinely, but only 14.3% said they would adopt the technique. Younger operators tended to affirm routine ultrasound adoption after reading the trial summary more often than older respondents (relative risk = 2.82,  $p = 0.036$ ).

**CONCLUSIONS** Routine ultrasound-guided femoral artery access and awareness of its validating evidence is uncommon among current interventional cardiologists; exposure to compelling data had minimal impact on respondents' willingness to change practice.

#### GW26-e5418

##### Revascularization of TASC C/D Iliac Occlusion Extended to Common/Superficial Femoral Artery Using a Mixed Endoluminal and Subintimal Technique through the Radio-Brachial Access

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**OBJECTIVES** Patients with Trans Atlantic Inter Society Consensus (TASC) C and D iliac lesions extended to common and/or superficial femoral artery are a very challenging subset of patients.

The aim of this study is to discuss the technical implication and short-term outcome of endovascular revascularization through the radio-brachial access using a mixed endoluminal and subintimal recanalization using a mixed endoluminal and subintimal technique.

**METHODS** From January 2010 to January 2015 We prospectively enrolled 33 consecutive patients (mean age  $79 \pm 12.5$  years), with long (> 80 mm) TASC C and TASC D symptomatic chronic iliac arteries occlusion extended to the common/superficial femoral artery, judged

not to be candidates for surgery. Procedure was attempted through the left radial or brachial artery by means of a mixed endoluminal and subintimal recanalization technique using coronary and peripheral dedicated guidewires.

**RESULTS** The procedure was successful in all but one case (96.9%), mean length and diameter of implanted stents were  $160.4 \pm 30.2$  mm and  $8.6 \pm 1.4$  mm (Everflex EV3 in 20 patients, Pulsar in 3 patients, Smart Flex in 10 patients), respectively. complications rate was 9.1% including two vessel ruptures and one distal embolization. Death rate was 3%. At a mean follow up of  $18.1 \pm 11.2$  months, the primary and secondary patency rates were 90.1 and 96.9%, respectively with a significant improvement of ABI ( $0.29 \pm 0.6$  versus  $0.88 \pm 0.3$ ,  $p < 0.001$ ) and Rutherford class ( $5.3 \pm 0.8$  versus  $0.7 \pm 1.9$ ,  $P < 0.01$ ) compared to baseline.

**CONCLUSIONS** The described technique appeared to be effective and safe allowing for recanalization of long iliac occlusion extended to common/superficial femoral artery.

#### GW26-e1408

##### Using echo-tracking to measure carotid artery stiffness in a family with elevated plasma lipoprotein (a)

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**OBJECTIVES** To evaluate the stiffness of carotid arteries with echo-tracking in a family with high plasma lipoprotein (a).

**METHODS** A family with hereditary elevated plasma lipoprotein (a) was diagnosed and followed at the Third Affiliated Hospital of Sun Yat-sen University. There were 32 people in the family (14 men, 17 women, aged 2-57 years, mean  $32 \pm 18$  years). The patients were divided into three case subgroups by age: age 2-20 years (seven men, two women), age 21-40 years (five men, seven women), and age 41-57 years (four men, seven women). At the same time, 32 healthy persons, age-matched and sex-matched, comprised the control group and were assigned to similar subgroups based on age. Exclusion criteria included previous significant valvular heart disease, heart valve surgery, severe mitral annular calcification, atrial fibrillation, use of a cardiac pacemaker, or other heart diseases such as dilated cardiomyopathy and rheumatic heart disease. Carotid intima-media thickness (IMT) was measured with two-dimensional ultrasound and carotid stiffness was measured with an echo-tracking ultrasound system (Alpha 10®, Hitachi-Aloka, Tokyo, Japan). In the echo-tracking examination, long-axis views of the right and left common carotid arteries were used. The area interrogated was located within 20 mm distal to the lower boundary of the carotid sinus. The vessel diameter curve was kept stable, without significant drift. When necessary, the patients were advised to hold their breath and  $\geq 6$  waveforms were acquired. The measured items for echo-tracking included the arterial stiffness index ( $\beta$ ), pressure-strain elastic modulus (Ep), arterial compliance (AC), augmentation index (AI), and pulse wave velocity (PWV).

**RESULTS** Carotid artery IMT and echo-tracking parameters in the 2-20-year-old subgroup were not significantly different from controls ( $P > 0.05$ ). Although IMT in the 21-40-year-old subgroup was not significantly different from IMT in the controls ( $P > 0.05$ ), the 21-40-year-old patients differed significantly from the control subjects in  $\beta$  ( $7.98 \pm 1.75$  vs  $5.34 \pm 1.58$ ,  $P < 0.05$ ), Ep ( $155.69 \pm 53.15$  vs  $103.59 \pm 42.37$ ,  $P < 0.05$ ), AC ( $0.96 \pm 0.33$  mm<sup>2</sup>/kPa vs  $0.68 \pm 0.29$  mm<sup>2</sup>/kPa,  $P < 0.05$ ) and PWV ( $8.27 \pm 1.33$  m/s vs  $5.36 \pm 1.42$  m/s,  $P < 0.05$ ). IMT in the 41-57-year-old patients was significantly higher than in the controls ( $1.12 \pm 0.18$  mm vs  $0.56 \pm 0.12$  mm.), but the echo-tracking parameters in this subgroup were not significantly different compared with those in the controls ( $P > 0.05$ ). More than one plaque was found in the common carotid artery in this subgroup.

**CONCLUSIONS** Echo-tracking was good for screening young individuals in the 21-40 age group. Although early carotid damage was not detected with IMT measurement, IMT in the 41-57-year-old family subgroup differed significantly from measurements in age-matched controls. But echo-tracking technology is no longer suitable for carotid artery stiffness evaluation in people with plaques inside.